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ABSTRACT

The assessment of student progress ("value added") between entering and leaving a college or university is important in any evaluation of an institution's effectiveness. In assessing progress, five propositions are worth noting. First, the assessment should deal with several dimensions of student growth, not knowledge alone. Second, there is no single technique (e.g., use of standardized tests) that can measure with precision the students' growth on any dimension: multiple measures are needed. Third, simply subtracting an entrance score from an exit score within a single institution or program will not suffice: progress in one program needs to be compared with progress in others. Fourth, the assessment of student attainments should be based on faculty judgments. Those judgments can be expressed in a systematic way that will render them comparable over place and time, without losing their subtlety, through incorporating "benchmark performances" that are chosen by faculty in the grading of student work. Fifth, to be useful in improving education, the data about student progress must be collected for a purpose, accumulated periodically over time, and related to other information such as changes that have been made in the curriculum. Used in that way, "value added" information can serve as a powerful tool in institutional self-improvement. (Author/JAZ)

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CAN "VALUE ADDED" ADD VALUE TO EDUCATION?

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ABSTRACT

The assessment of student progress ("value added") between entering and leaving a college or university is important in any evaluation of an institution's effectiveness. In assessing progress, five propositions are worth noting. First, the assessment should deal with several dimensions of student growth, not knowledge alone. Second, there is no single technique (e.g. use of standardized tests) that can measure with precision the students' growth on any dimension: multiple measures are needed. Third, simply subtracting an entrance score from an exit score within a single institution or program will not suffice: to evaluate the amount of growth achieved, progress in one program needs to be compared with progress in others. Fourth, the assessment of student attainments should be based on faculty judgments. Those judgments can be expressed in a systematic way that will render them comparable over place and time, without losing their subtlety, through incorporating "benchmark performances" that are chosen by faculty in the grading of student work. Fifth, to be useful in improving education, the data about student progress must be collected for a purpose, accumulated periodically over time, and related to other information, such as changes that have been made in the curriculum. Used in that way, "value added" information can serve as a powerful tool in institutional self-improvement.

William W. Turnbull

Can "Value Added" Add Value to Education?

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The term "value added" is among our most abused buzz-words in education. It has been in the economists' vocabulary for a very long time. As you know, they use it to represent the extent to which a particular stage in the development or manufacture of a product enhances its worth. Examples would be the increase in the value of the raw diamond when it is cut and polished or the value added to the clay when it is shaped into a pot. At any rate, it was easy for the term "value added" to slip into educational parlance to represent the beneficial change in students brought about by the efforts of those responsible for their schooling, as the faculty polishes up the diamonds in the rough who enter their institution.

I happen to think that the short-hand term "value added" is an unfortunate application of the economic model to education. Unlike the manufacturer or diamond cutter or the potter, the educator is not dealing with inert material to be re-shaped. The faculty role is perhaps more like that of the gardener who is trying to foster healthy growth in the garden plot. But I don't want to get hung up on the term "value added" or on the imperfect analogy that produces it.

Education is the process of fostering student growth and beneficial change. And the root idea of assessing how much students learn or improve or grow in school or in college, as well as how good they are at graduation, is not only a good idea but obviously one that lies near the heart of the education enterprise.

Judging the quality of an institution's curriculum or teaching only by the final level of attainment of its graduating class is as illogical as it is common. I had a friend who used to say that he was going to start a school for producing tall people, with a money-back guarantee that they would reach 6 feet by the time of graduation at age 17. His only admission criterion at age 13 was that each student be at least 5 feet 10.

For years, people have complained that the more selective institutions are like the school for producing tall people. They require students to be highly developed when they arrive. Then the selective college has nothing to do but wait and receive the nation's applause when those same students emerge as exceptionally well-educated people. President Elliott of Harvard was once asked how the institution had managed to accumulate such impressive resources over the years. He is alleged to have responded, "It's simple: the students bring so much with them when they enter and take so little with them when they leave." At any rate, some people contend that there are less selective colleges to which most students come with much less impressive prior skills but in which they learn as much and progress as fast as the people in the more selective institutions. The colleges that produce those excellent gains, and their students, the argument goes, deserve the accolades of the public at least as much as those institutions that are blessed with the shiniest freshmen, who in due course emerge as the most lustrous graduates.

The counter-argument is that it's the end-product that counts. A lot of parents have been fed up with the value-added assessments of their kids ever since kindergarten days: report cards that say, "Your child shows wonderful improvement," but saying nothing about whether Johnny or Jane has suddenly begun quoting Shakespeare or merely stopped biting the teacher's

ankles. They say you don't pick a lawyer or a brain surgeon for how much he or she improved while in school, but for how good they are at the end.

The fact is, of course, that both progress and end product are important. Which is more important depends on your purpose. Some measure of student progress in knowledge or skill can tell you how well both the institution and the students did with what they had to start with. Assessing the amount of improvement or progress made by students is most likely to be pertinent when one is trying to judge the success of one program of instruction compared with another. How well is it bringing a group of students along, compared with the program of another institution, or compared with the curriculum the college was following last year? Some measure of comparative student progress is essential if we are to learn whether one program is more effective than another: whether a change in educational procedure is a step forward or backward. In contrast, a measure of the standard reached by the end of the course of study is essential before a person can be certified as ready to enter practice or training that presumes a certain level of prerequisite knowledge or skill. Neither a measure of progress nor a measure of end status by itself is likely to tell you all you want to know.

One of the problems is that posing questions about progress or gains and especially about "value added" seems to drive people immediately to oversimplified approaches. For example, in the school for producing tall people, why not just measure every student at entrance and again at graduation, subtract the entry level from the exit level and grade the success of the school by the average increase?

First, you have to know how many students have left between entrance and graduation. The school or college that keeps only the most successful

students has a built-in guarantee that the graduating class will look good. Even an open-door school for producing tall people could seem to show great results by flunking all the short students. The fact that the average score of the people who are left to graduate is substantially higher than the average score of the entering freshmen may say more about its retention policy than about its instructional prowess. It's even worse if you try to infer change from a simple comparison of how much today's seniors in your college know, or their attitudes, compared with today's freshmen. I'm indebted to Ernie Pascarella for the observation that if you were to judge from cross-sectional age samples of the population of Miami you might conclude that most people there are born Cuban and grow old Jewish.

Another oversimplification relates to the kind of measure you use. Where you are dealing with a criterion as one-dimensional as height and a test as simple and self-evident as a measuring tape, a before-and-after measure makes sense, as does subtracting the measure at the beginning from the one at the end. But suppose your aim goes beyond increasing height to improving health. Suddenly you have a whole array of measures that various people think are critical. You also have all the arguments about the relative importance of indicators such as weight, blood pressure, pulse rate or cholesterol level and so on through the whole rich panoply of criteria of both fitness and wellness. When you broaden the criterion, the idea of subtracting a set of beginning measures from a set of end measures begins to sound inadequate for many reasons. It's the patterns and interrelations among the indicators that count. Moreover, by graduation time from a training program for athletes, you may be using tests of performance or endurance that would have been unthinkable, if not fatal, if given at the entry level. Bob Pace points out that a skiing instructor wouldn't send all

his students down a steep hill on Day 1 so he could demonstrate value added at the end of the course. The same is true in an academic institution. By the end of an academic program students should be dealing with levels of complexity that could not reasonably have been introduced into entry-level exercises. Accordingly, there is unlikely to be an index of academic attainment that can yield to simple subtraction to show the growth of college-level competencies.

For these and other reasons, I think that the term "value added" conjures up a simplistic and unidimensional cookie-cutter view of educational progress that is a potential trap for the unwary. And yet I do not believe that measuring status by itself is sufficient for program evaluation and I am an enthusiastic advocate for assessing student gains in a broader sense, freed from the expectation that it can be done with the simplicity and precision often implied in "value added."

There are five axioms that I think are pertinent to the successful assessment of student progress in college.

First, the assessment must be multidimensional. Every college that I am familiar with aspires to help its students gain in clear thinking, an inquiring mind, broadened understanding, the ability to express oneself, career or vocational readiness, and knowledge both general and specific to a field of study, not to mention personal integrity and citizenship.

Second, there just isn't any way to measure those attributes simply or with precision, for a whole class -- and much less for an individual student.

A variety of assessment techniques, including passive indicators like using the library or engaging in vandalism or dropping out or succeeding in

landing and holding a job, will need to be made part of an organized assessment program along with academic work samples like the senior thesis or the departmental exam. As you might expect, I firmly believe that external tests can be helpful in assessment, but the idea that an external test is going to give you more than a fraction of what you are interested in learning about progress toward the broad goals of higher education is, at this date, totally illusory.

Third, when it's progress or growth that's to be assessed, some way must be found to establish a baseline measure of the skills with which the students enter the institution. Even though it's seldom possible to have a plausible set of tests for incoming freshmen that will require them to show their grasp or lack thereof of the multitude of skills you want to be able to observe at graduation, there is a reasonable alternative available. That is to make use of the SAT scores of the incoming class to serve as a rough measure of developed ability at entrance.

For knowledge and skill objectives, in particular, it is possible to set up a set of expectancy tables showing the mean level of senior-year accomplishment to be expected of students who enter with a given level of proficiency as measured by the SAT. It is obviously much more difficult to achieve a high level of end-of-college performance with a group of students who entered college with an average score of 400 than it is to accomplish the same thing with a group of entrants who averaged 600 at admission.

Fourth, some way must be found to assess the accomplishments of graduating students and to express the results in terms that have meaning from year to year or across departments or, in some cases, across institutions. Faculty grades are too variable over time and departments to

do the job. But you don't want to rely solely on extrinsic indicators like admission to graduate school. What can you do?

I would propose one approach for your consideration. To apply it, you need to preserve benchmark samples of actual student work, like a set of graded senior theses (representing honors work, barely acceptable work, and three or four points in between), together with a record of what proportion of the senior class was able to reach each level in 1987. That will make a fascinating basis for comparison if you assign the same kind of senior exercises in 1990. It will yield equally fascinating comparisons in 1987 if done cooperatively by a few cooperating colleges, using the SAT baseline data to monitor for any major differences in ability at entrance between institutions. The comparative performance of students who have come through different institutional experiences as preparation for a common senior-year exercise can be a rich source of data about the objectives that are or are not being achieved on one's own campus, provided some form of benchmark performances are used as markers in common across the colleges. This is a task for cooperative research among like-minded institutions.

Fifth, the data must be wanted by somebody for some specific purpose. This fifth axiom might well have been the first. Traditionally, assessment data have been used mainly by people interested in institutional research. Fine. But the information is not going to have much immediate effect unless it is made vital to two other groups: first, the faculty and second, the administrators and policy makers. The latter group are especially important where the assessment data refer to whole classes or colleges and where the results can be related to policy decisions, which usually involve choices in the allocation of scarce resources among alternative uses.

Most sets of institutional data that have been collected in the past have been designed to answer broad retrospective questions about, for example, trends in student interests and values, or in the opinions of students, faculty, or alumni, rather than to serve as a basis for hard institutional decisions that are being contemplated for the future. When assessment is seen as a vital tool for academic management at both the classroom and the institutional level, it will be taken seriously. That won't happen until the assessment techniques are designed specifically to yield the kinds of information that somebody is depending on to illuminate issues and decisions for which that person bears direct responsibility.

Traditionally we evaluated institutions and programs by counting institutional resources, like buildings or student faculty ratios or Ph.D.'s. We went on to a faith in evaluation through the examination of processes, like the breadth and depth of the curriculum. Now the pendulum -- or at least the rhetoric -- is swinging to using the assessment of student outcomes as the basis for evaluation. This is a healthy swing, in my judgment, that can be made even more significant if the focus comes to rest on student progress as well as on terminal status. And finally, the new emphasis on student growth can play a dynamic role if we see that the road to further improvement is through discovering how changes that we choose to make in the traditional criteria of resources and processes result in changes in student progress, and use the information to improve practice. Then we will have closed the loop and taken an important step toward the ideal of the self-improving institution.